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cont.

wherein said rotor is formed of a plurality of longitudinal segments of permanent magnetic material, wherein said segments alternate orientation of north-south magnetic polarity in a radial direction to produce flux in flux path loops connecting pairs of the longitudinal segments;

a plurality of stator coils mounted on said shaft for receiving current from an external power supply that commutates current in said stator coils;

wherein said motor is a brushless d.c. motor;

further comprising a cylindrical metal housing forming a part of the rotor for receiving the segments of permanent magnetic material and for supporting the shaft and the stator coils in a motor assembly; and

wherein said motor assembly is disposed inside of and secured to said roller.

3. (Amended) The motor of claim 2, wherein said motor assembly is secured to said roller at least in part by a force fit of the cylindrical metal housing inside said roller.

4. (Amended) The motor of claim 2 or 3, wherein said housing and said plurality of stator coils extends only part way in an elongated direction of said roller.

5. (Amended) The motor of claim 2 or 3, wherein said rotor and said plurality of stator coils extend substantially an entire length of said roller.

6. (Amended) The motor of claim 2, wherein said plurality of poles includes at least six poles formed in said cylindrical member as longitudinal segments with segments of alternating north-south magnetic polarity with said roller providing a magnetic path between segments.

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7. (Amended) The motor of claim 2 or 3, wherein said rotor is connected to directly drive said roller without the use of a reduction gear assembly.

8. (Amended) The motor of claim 2, wherein the stator coils are formed of a number of turns and a gauge of wire selected to produce a ratio of stator voltage to speed of at least 10 RMS volts per 1000 RPM for an applied stator voltage of 24 RMS volts per phase.

9. (Amended) The motor of claim 8, wherein the stator has a plurality of teeth, and wherein each stator coil encircles a single stator tooth.

10. (Amended) The motor of claim 2, further comprising a sensor for detecting a rotational position of the rotor.

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11. (New) The motor of claim 10, wherein the position sensor comprises three Hall-effect devices mounted on a circuit board disposed within the motor housing.

12. (New) The motor of claim 10, in combination with an electronic controller, said electronic controller sensing rotational position of the rotor from the position sensor and controlling commutation of current supplied to the stator coils.

Remarks

Accompanying this amendment is a Letter re Drawing Changes. In Fig. 5, it is proposed to move the power lines 55 to a position emanating from the power supply 54. This is consistent with the current description which has not been amended.

In the Office Action of December 19, 2001, claims 1-10 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite. The term "which" and the term "sufficient" were